Anatomy of the node.—An example of what sort of contribution may be made by real "comparative" anatomy to taxonomy is seen in SINNOTT's work on the node of Dicotyledons.[33] It has frequently been proposed to use the structure of the petiole in establishing relationships, but this region is subject to too great ecological variation to yield results of general significance. In the basal region of the leaf, however, a simpler and more constant condition is found, and the number of leaf traces is characteristic of great groups. With respect to the Angiosperms it is concluded that the primitive number of traces is three, and that evolution has taken place in two directions: (1) by increase, as in Umbelliflorae; and (2) by reduction to one trace, which appears to happen either by fusion of the original three or by disappearance of the two lateral strands, as may be seen in Cruciferae and Aquifoliaceae respectively. The correctness of these conclusions is attested by the occurrence of transitional forms and by the fact that seedlings frequently show a simpler condition of the leaf trace than does the adult. Such a study supports the validity of a number of ENGLER's orders, while it casts doubt on certain orthodox views, such as the near relationships of Compositae and Campanulaceae.—M. A. CHRYSLER.

Studies of desert vegetation.—SHREVE[34] has studied the influence of low temperatures on the distribution of the giant cactus, *Cereus giganteus*, and he concludes that the limiting factor in regard to distribution northward is the number of consecutive hours of freezing. Plants exposed experimentally to freezing for six to fifteen hours were not seriously injured, whereas an exposure of more than thirty hours to freezing temperatures resulted in death. It is concluded that the giant cactus cannot exist where an entire day occurs without thawing temperatures. Probably the distribution of many other plants of the warmer deserts are thus limited.

SHREVE[35] has studied also the establishment behavior of the palo verde, *Parkinsonia microphylla*. Out of 542 seedlings of the year 1910, observed in their natural habitats, only 62 remained alive at the end of sixteen months. Further observations showed that a number of seedlings die in the second and third years, whereas most plants attaining the age of three years are fairly established and live for a long time. Physical conditions, rather than competition with other plants, are the chief factor in producing these results, and the most important physical condition is the absorption-transpiration balance.—H. C. COWLES.

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[33] SINNOTT, E. W., Investigations on the phylogeny of the Angiosperms. I. The anatomy of the node as an aid in the classification of Angiosperms. Amer. Jour. Bot. 1:303–322. *pls. 30–34.* 1914.

[34] SHREVE, FORREST, The influence of low temperatures on the distribution of the giant cactus. Plant World 14:136–146. *figs. 3.* 1911.

[35] ———, Establishment behavior of the palo verde. Plant World 14:289–296. 1911.